SETTING TOWN Company illustrations by Mark Raithel

Twig hunters become really sappy when trees shed their leaves. Serving nature and you Most trees grow primarily at the tips of their twigs. It's like the bud at the tip of each twig is reaching outward or upward for more sunlight. This bud, surrounded by a circle of tiny leaves known as bud scales, is called the terminal bud. Terminal means "the end."

Lateral buds grow along the sides of twigs.
Sometimes you'll find two different sizes of lateral buds on the same twig. The larger ones will probably become next year's flowers, and the smaller ones will become next year's leaves.

Leaf scars, the places where leaves were attached, can be as unique as fingerprints for many tree species. For example, the leaf scar on a green ash twig is shaped like a shield, but the leaf scar on a white ash twig has a horseshoe shape.

If you cut a twig, you'll see that it contains some soft material, called pith, in the center. The shape of the pith in cross-section might be round, triangular or star-shaped, depending on the species of tree. Slice a twig lengthwise (be very careful!) and you'll see that the pith might be solid or contain regularor irregular-size chambers. All these differences can help you zoom in on the species of tree that grew the twig. Now that the leaves are gone, it's great fun to look at how trees send out twigs to grow.

The size and shape of the buds and the number of bud scales covering them also help with identification. The buds on some trees will be in pairs opposite one another. Only a few kinds of trees, like maples, ashes and dogwoods, have buds that are opposite. Finding this pattern on a twig is a quick way to narrow down your identification of the species.

If you look closely at a leaf scar, perhaps using a magnifier, you'll see bundle scars that show where the leaf veins connected to the twig.

In some cases, you can tell the kind of tree you are looking at by whether the twig's bark is smooth or rough. Another key is the shape and size of the lenticels. These are small pores along the twig. They look like little warts, but air can pass through them, allowing the twig to "breathe." Lenticels are easy to see on black cherry trees.

Along the length of a twig, you'll find bumpy rings of terminal bud scale scars. You can find out how much an oak twig grew during the past year by measuring the distance between the outermost circle of scars and the terminal bud at the end. Twigs often break near these rings. Post oak twigs, for example, almost always break at terminal bud scars. It takes about a 40 mph wind to break healthy twigs off a tree. You might find a mess of twigs littering the ground after a big thunderstorm. Dry or very cold weather makes twigs more brittle and easier to break.

ook at a tree in spring and summer, and you mostly see leaves. Then the leaves fall, and what you have left for winter are branches and bare twigs. Though bare, those twigs are not barren. From the time the leaves fell off, the twigs have been preparing for a new season of growth.

Twigs are how trees grow taller and fuller. Roots grow, too, but they are underground where we can't see them. Tree trunks also grow, but they just get thicker so they can support more twigs and leaves at the top.

Twigs don't stay twigs forever. They eventually thicken to become branches. Many tree experts define a twig as new growth less than 1/4 inch thick. The bark of twigs is often a lighter color than the bark of branches.





If you've got trees nearby, you've got twigs. Don't let them go to waste-get creative!

Margo collected fallen twigs to create this seasonal centerpiece. She tied bunches of twigs in the center with ribbon, then spread them out tepee-fashion.

Then, Margo laid a stick across the top, connecting the bunches and giving her a place to hang decorations like gourds, pinecones and walnuts.

Some trees, like elms, black locust, mulberries and a few others don't have a terminal bud. They grow from buds on the side of the twig. This results in a zigzag growth pattern. It's easy to notice this pattern in winter.

Twigs grow mostly at night, when the leaves don't need as much water.



Downed twigs make great fire-starters. Pile on larger branches after the twigs catch fire.

Just like tree trunks, twigs have outer rings of xylem and phloem. These pipe water up into the leaves and pipe the sugars created by the leaves to the rest of the tree.

Soft twigs are more digestible than branches. Deer often move through a



If you want a challenge, try to identify species of leafless trees with just a magnifying glass and a twig key. Twig keys help you identify a tree by having you choose one option at a time. It asks you questions like: Are the buds alternate or opposite? Are the leaf scars large or small? Is the pith solid or chambered? Black walnut is a good example of a tree with chambered pith.

You'll get better using the key the more you use it. If you get lost in the key, you can look for fallen leaves beneath the tree to get more clues.

The Conservation Department book *Key to Missouri Trees in Winter* contains an easy-to-use twig key. Copies are available for \$3 plus shipping and handling and sales tax (where applicable) by calling, toll-free, 877/521-8632 or visiting *mdcnatureshop.com*.

